

FAS – Office of Global Analysis (OGA)  
United States Department of Agriculture (USDA)  
International Operational Agriculture Monitoring Program



**January Summary**

**January 24, 2009**

(1) Based on season-to-date conditions winter grains (wheat and barley) production outlook for MY 2009/10 is better than last year but not a full recovery to the production levels of MY 2006/07 and MY 2007/08. Major production provinces of Khuzestan, Fars and Razavi Khorasan, which cumulatively produce over 30% of total wheat and 27% of barley, have been receiving well below normal rainfall and are showing similar to lower vegetation production than last year at this time. Crop conditions, however, were especially favorable for other major production provinces in the northwest and central regions of Iran during the planting season which should result in an increase in grain production over last year.

(2) Season to date precipitation has favored the northwest provinces, north of Khuzestan, where over 40% of all wheat and 40% of barley are produced (Figure 2). These provinces received well above normal precipitation during the early decades of the winter grains season but have seen far less rainfall since early December. Major grain production provinces of Khuzestan, Fars and Razavi Khorasan have received below normal precipitation and, in most areas, lower than during the same period last year. These three provinces are primarily irrigated, however account for over 10% of the national rainfed wheat production and 15% of rainfed barley. Razavi Khorasan received its first major precipitation events of the winter grains season in early January (Figure 3), which will be helpful to revitalize the soil and for what crops are already there, but comes well after the planting season has ended.

(3) Air temperatures over Iran are staying close to normal for this time of year, averaging only a few degrees higher around the north and central portions of the country, and a few degrees lower in the southern provinces (Figure 4). Average temperatures for mid-January are around -5 to 5 degrees C, which will keep wheat and barley in winter dormancy but are not so cold as to present risk of killing the crops.

(4) Higher than average ground-surface temperatures in Iran have resulted in below normal snow area accumulation since the start of the MY 2009/10 winter grains season. An increase in snow precipitation events in early January brought accumulation nearer to the 5 year average than in previous months, however current snow pack remains 25% lower than typically seen by mid-January (Figure 5). Winter snow cover over agricultural fields provides important protection to dormant grain crops against cold weather and killing frosts, as well as provides ground moisture from snow melt in early spring. Figure 6 highlights areas of agriculture typically protected by snow cover in mid-January but are left uncovered by current conditions. Mild winter temperatures thus far have spared these areas from any major harm, however if temperatures continue to drop these fields may be at risk if left exposed to the elements.

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(5) MODIS NDVI current conditions as a departure from the 5 year average shows below average vegetation in provinces of Khuzestan, Fars, and Razavi Khorasan where minimal rainfall has been occurring (Figure 7). Similarly the northwest provinces where ideal precipitation had been falling is showing an increase in vegetation abundance. This is a good indication that conditions are favorable in the northwest provinces for rainfed vegetation to thrive.

(6) Vegetation abundance over agricultural areas when compared against MY 2008/09 indicates largely similar crop conditions across most of Iran. Increased production is evident along the Caspian Sea where precipitation has been favorable and temperatures seasonally warm, however dominant crops in this area include rice and legumes (Figure 8) and the region accounts for less than 2% of national wheat and barley production. Decreased vegetation abundance from last year's conditions is evident in Khuzestan, which accounts for 10% of national wheat and 4% of barley production. It is important to note when reviewing Figure 7 that snow cover will result in NDVI conditions appearing similar between years because vegetation abundance can not be measured through it. This particularly affects analysis in much of the northwest where precipitation has been more favorable than last year but snow covers most of the agricultural regions. Following snow melt it is expected that similar NDVI comparisons will indicate an increase over MY 2008/09 levels; the northwest, not including Khuzestan, accounts for over 40% of all wheat and barley production in Iran.

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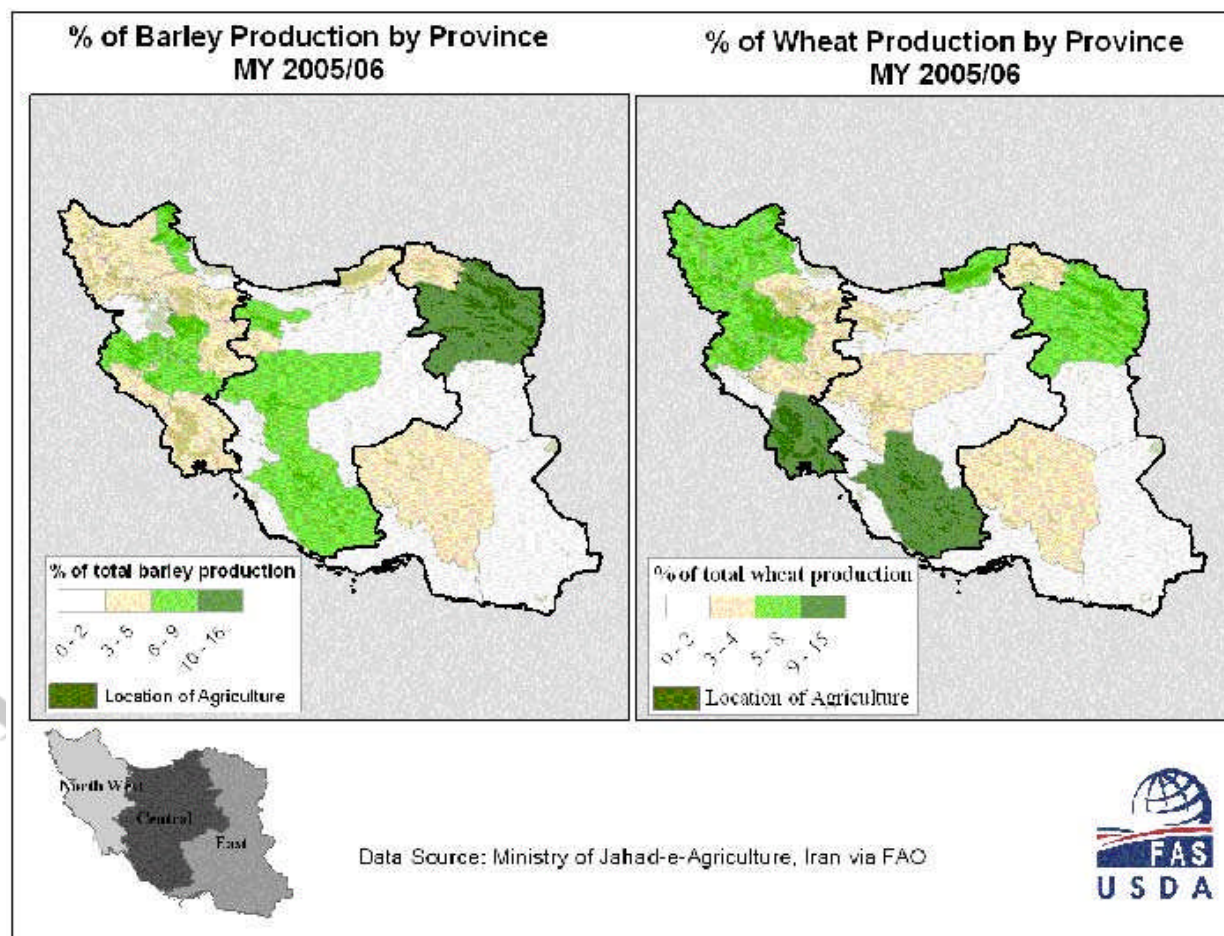
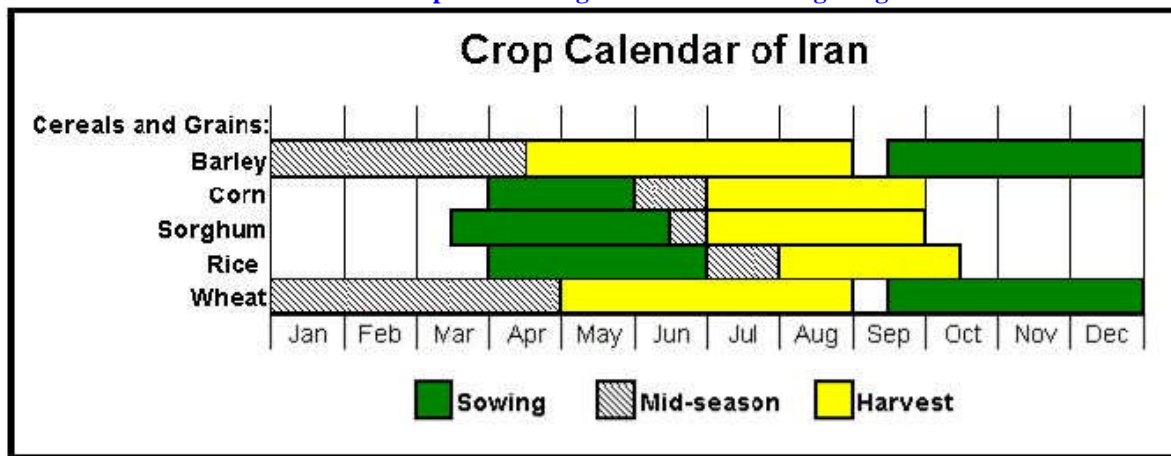


Figure 1. Breakdown by province, percent of total wheat and barley production in Iran.



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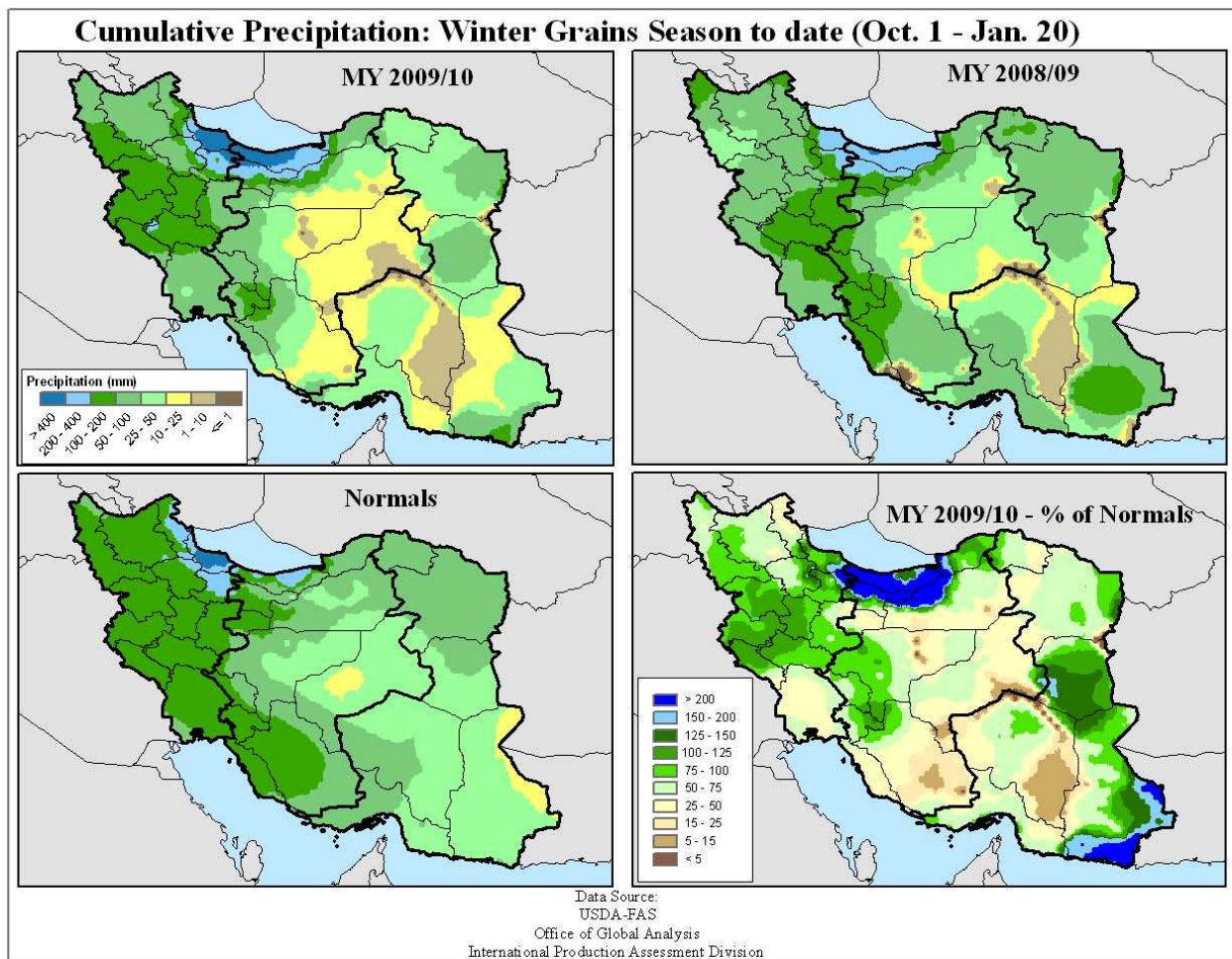


Figure 2. Cumulative precipitation since start of the current winter grains season, MY 2009/10, compared with the previous season, MY 2008/09, and precipitation normals.

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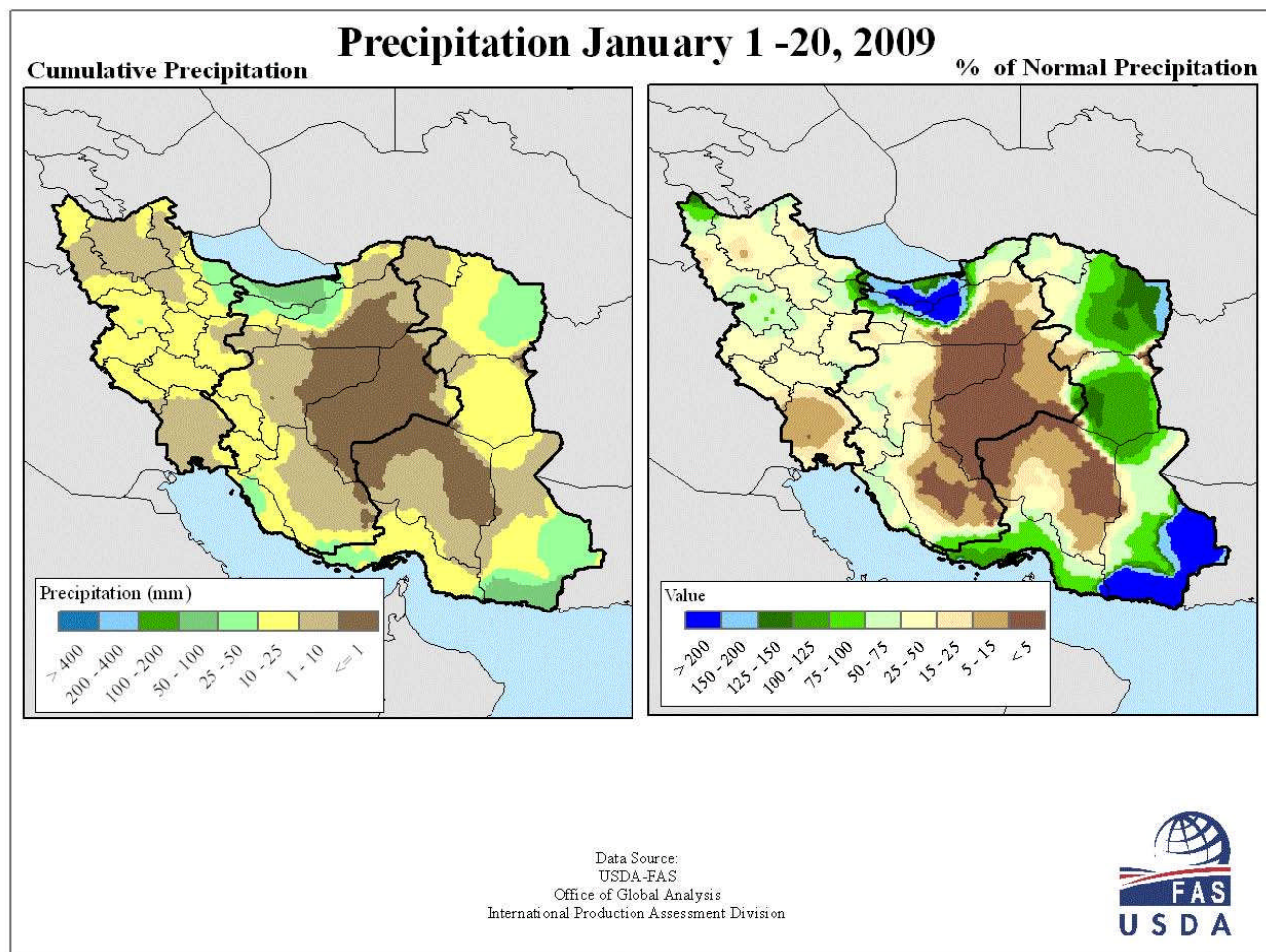


Figure 3. Cumulative precipitation during the first two decades of January, 2009.

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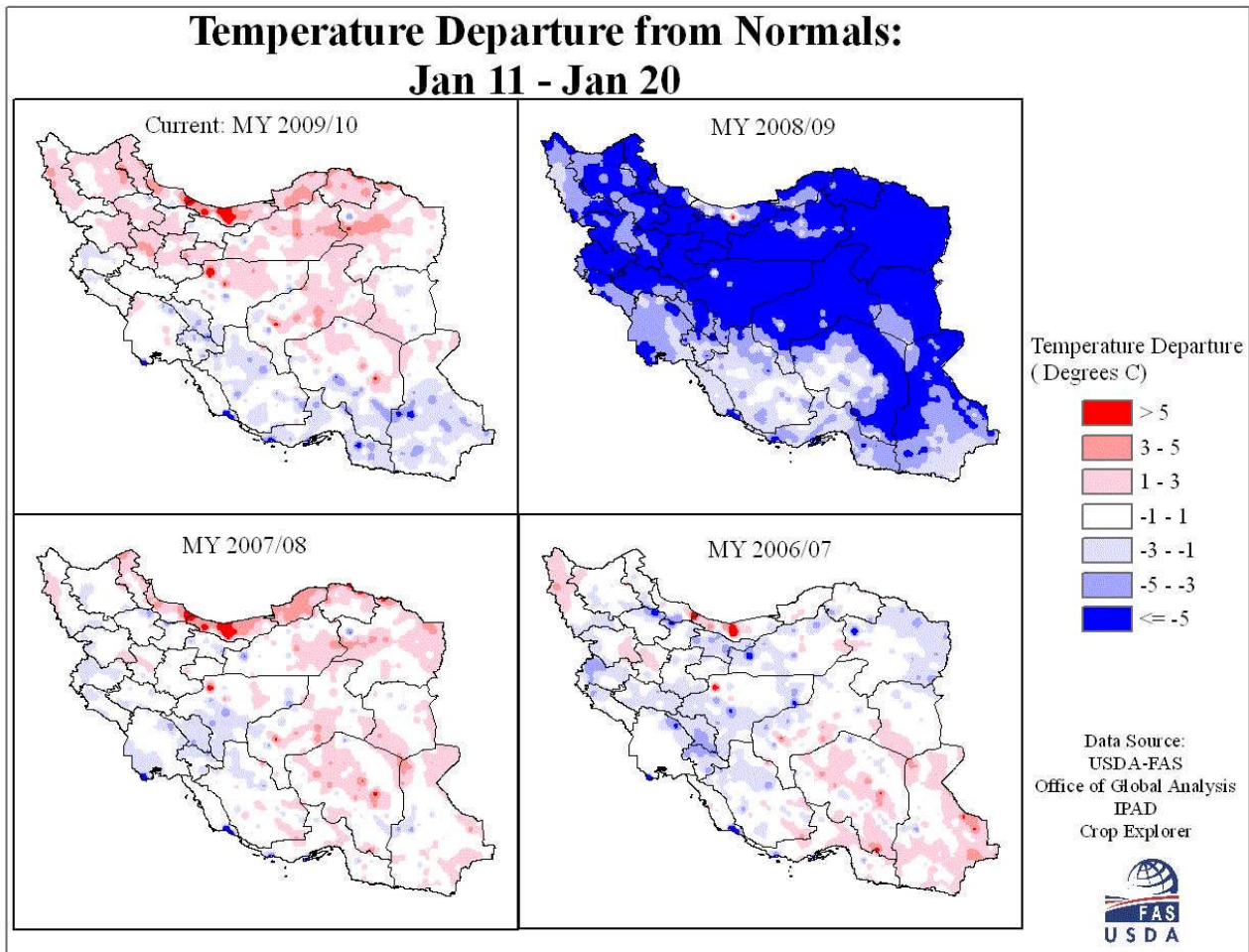
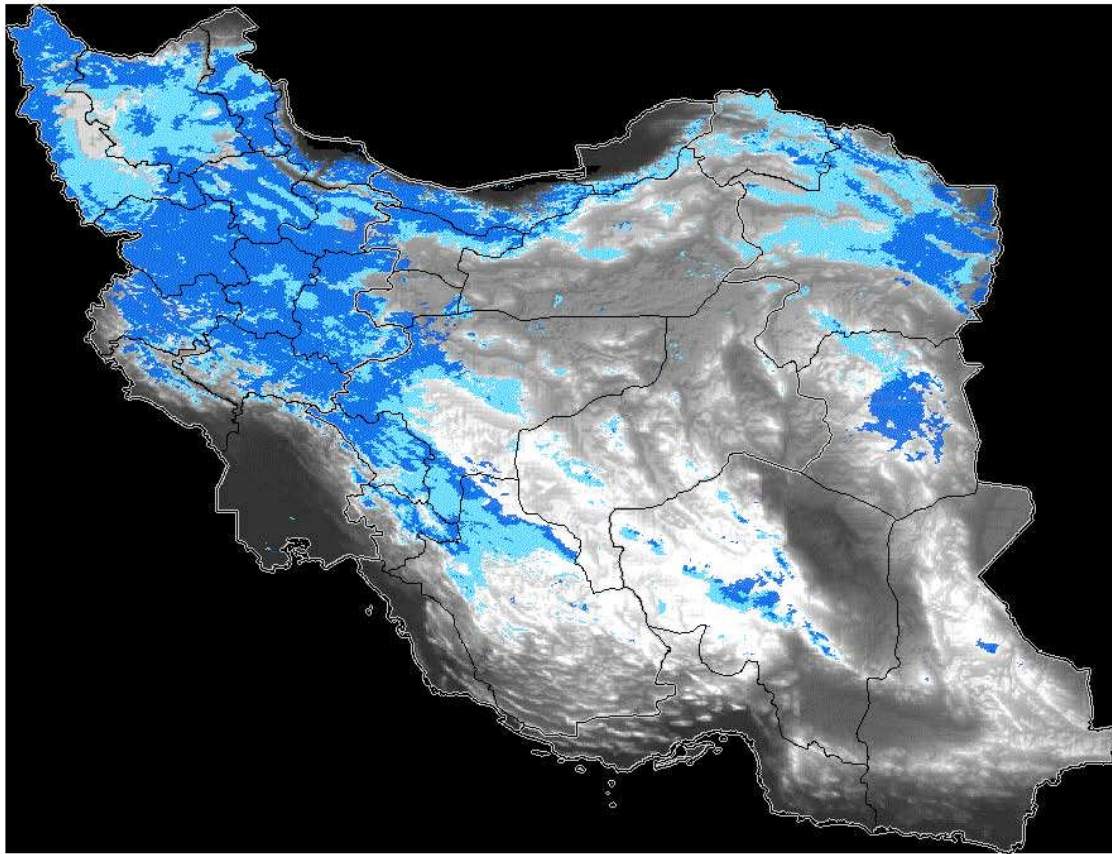


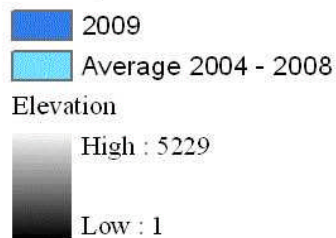
Figure 4. Departure from normal temperatures during the second decade of January, a comparison across the last four years.



Annual Snow Accumulation Locations:  
current year compared against 2004-2008 average



Location of Snow Accumulation  
by January 17th

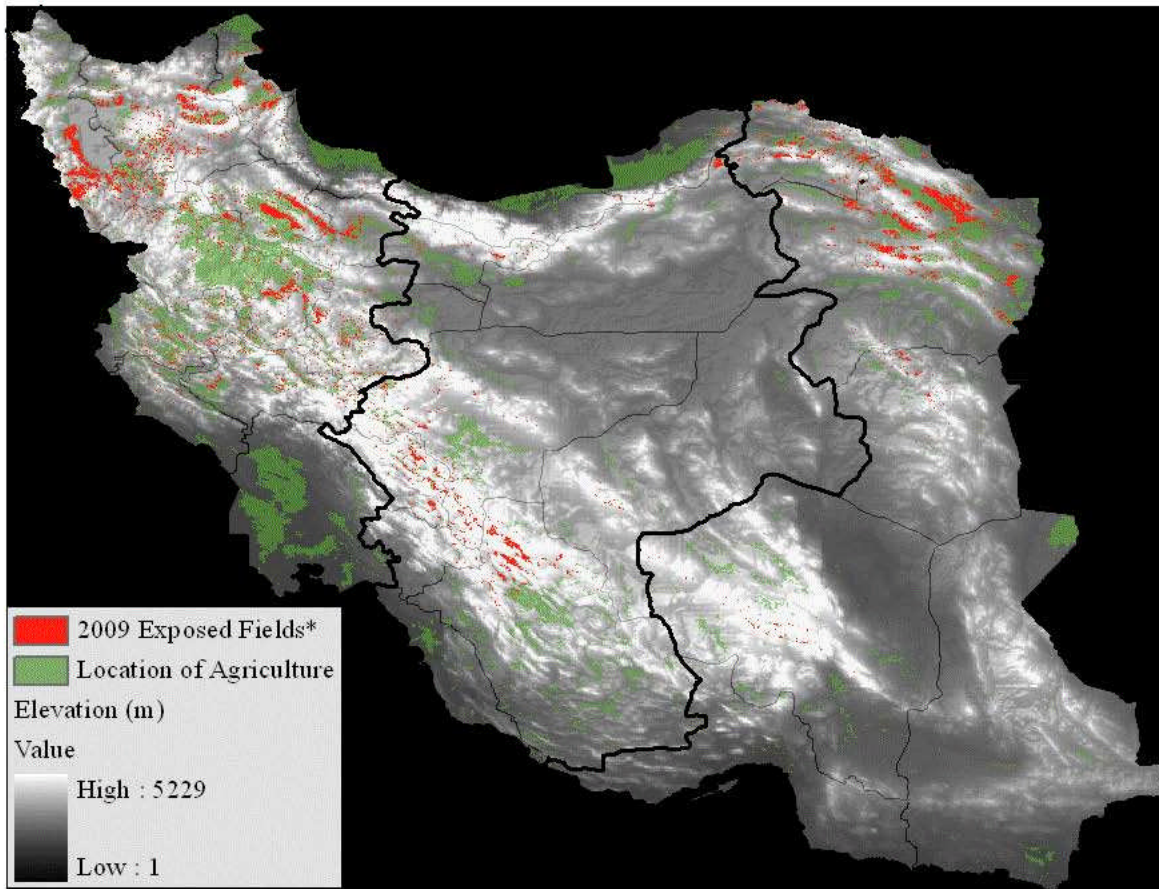


Data Source:  
NASA  
National Snow and Ice Data Center



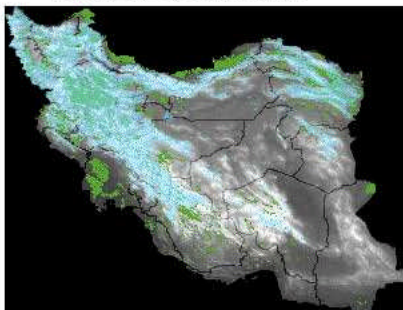
Figure 5. Snow accumulation as of January 17<sup>th</sup>, 2009. Current snow accumulated area for MY 2009/10 winter grains season compared to average area of snow accumulation during the previous 5 years.

## Potential Areas at Risk from Lack of Snow Cover

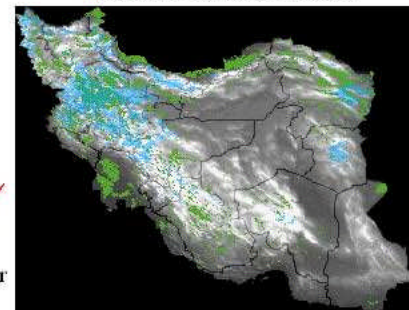


\* Higher elevation agricultural fields are traditionally covered by snow, protecting crops against cold weather and killing frosts during the winter dormancy. Below average snow accumulation has left many of these areas exposed to the elements.

Mid-January Snow Coverage:  
Previous 5 year average



Mid-January Snow Coverage:  
Current Conditions (2009)




Data Source:   
NASA  
National Snow and Ice Data Center

Figure 6. Agricultural fields typically protected from cold and frost by snow cover in mid-January, but left unprotected during the current winter grains season.



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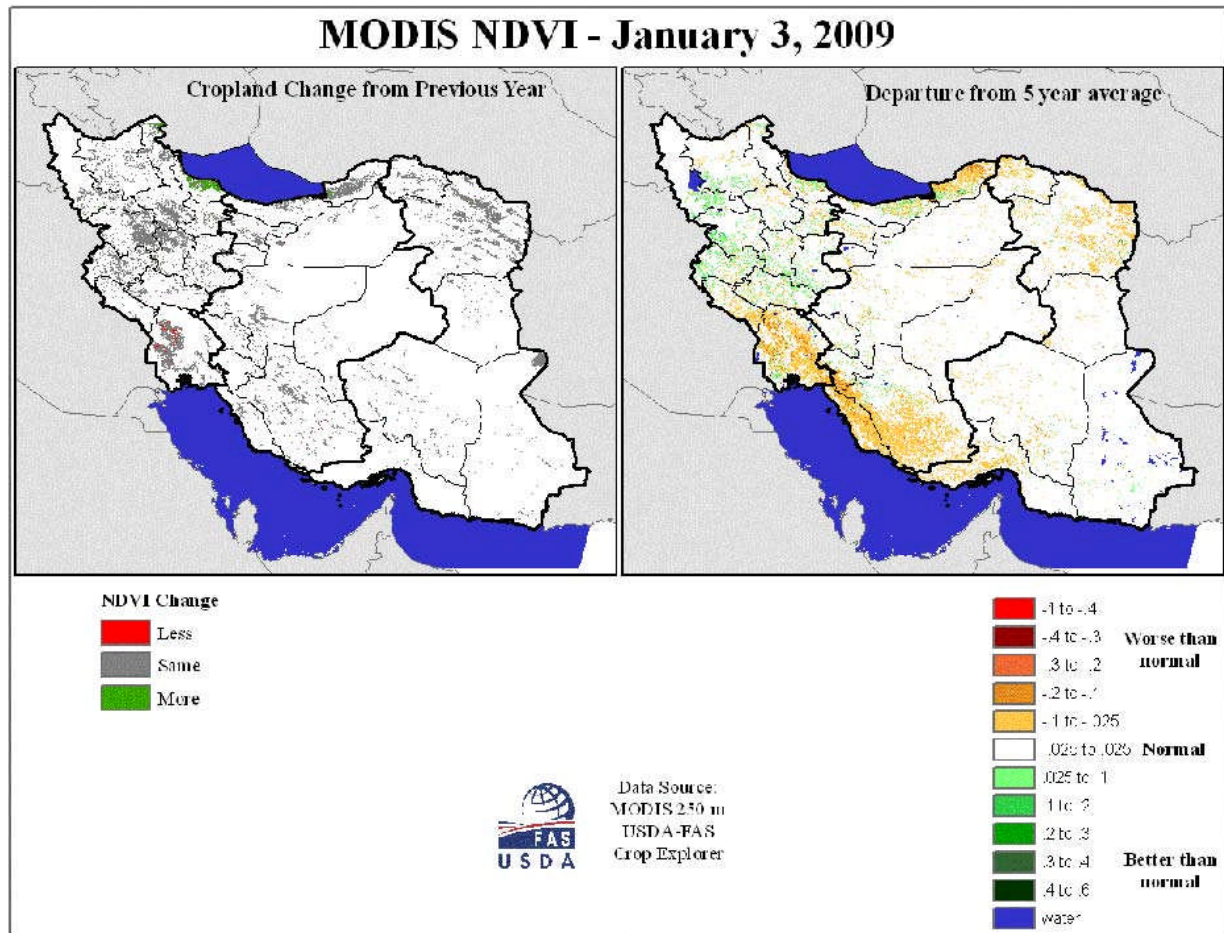


Figure 7. MODIS NDVI comparing vegetation abundance over agricultural lands to the previous year (MY2008/09), and comparing current vegetation abundance against the short term, 5 year, average.

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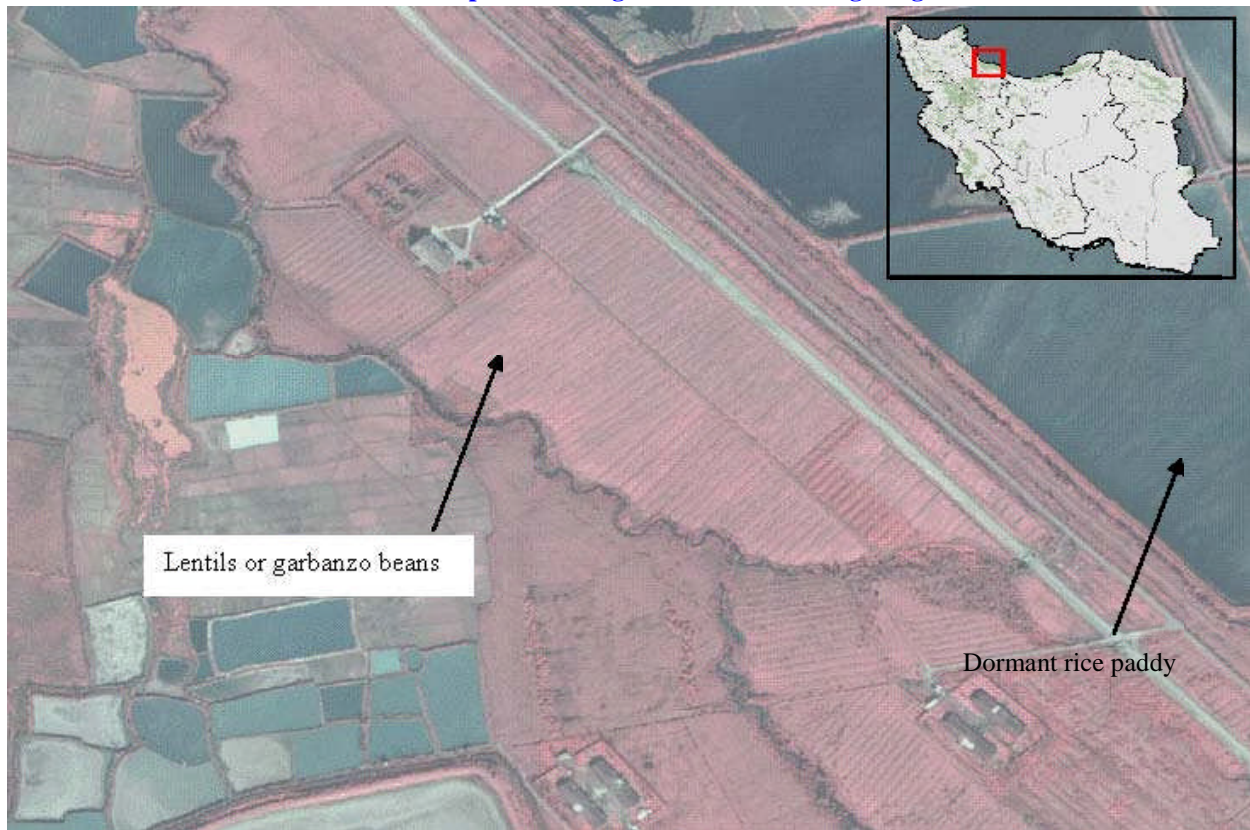


Figure 8. Higher than normal vegetation abundance along the Caspian Sea appears to be a result of high productivity in legume production such as lentils or garbanzo beans which are characteristically grown in well defined, spaced rows.

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